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(to be used for all correspondence after initial filing)

Application Number	09/353,583
Filing Date	July 15, 1999
First Named Inventor	Samuel Reichgott
Art Unit	2611
Examiner Name	TRAN, Hai V.
Total Number of Pages in This Submission: 71	Attorney Docket Number: GEN-040

ENCLOSURES *(Check all that apply)*

- [X] Fee Transmittal Form
- [ ] Fee Attached
- [ ] Amendment/Reply
- [ ] After Final
- [ ] Affidavits/declaration(s)
- [ ] Extension of Time Request
- [ ] Express Abandonment Request
- [ ] Information Disclosure Statement
- [ ] Certified Copy of Priority Document(s)
- [ ] Response to Missing Parts/ Incomplete Application
- [ ] Response to Missing Parts under 37 CFR 1.52 or 1.53
- [ ] Drawing(s)
- [ ] Licensing-related Papers
- [ ] Petition
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- [ ] Power of Attorney, Revocation Change of Correspondence Address
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- [ ] CD, Number of CD(s) _____
- [ ] After Allowance Communication to Group
- [ ] Appeal Communication to Board of Appeals and Interferences
- [X] Appeal Communication to Group **(Appeal Notice, Brief, Reply Brief)**
- [ ] Proprietary Information
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- [X] Other Enclosure(s) (please Identify below):
  1. **Duplicate and Triplicate copy of appeal brief**
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SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual	**Steven L. Nichols, Esq.** **(Reg. No.: 40,326)**
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Date	**March 17, 2003**

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FEE TRANSMITTAL for FY 2003

Effective 01/01/2003. Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT ($) 320.00

Complete if Known	
Application Number	09/353,583
Filing Date	July 15, 1999
First Named Inventor	Samuel Reichgott
Examiner Name	TRAN, Hai V.
Art Unit	2611
Attorney Docket No.	GEN-040

METHOD OF PAYMENT *(check all that apply)*

☐ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None

☑ Deposit Account:

Deposit Account Number: 18-0013/ 80113-0040

Deposit Account Name: Rader, Fishman & Grauer

The Commissioner is authorized to: *(check all that apply)*

☑ Charge fee(s) indicated below ☑ Credit any overpayments

☑ Charge any additional fee(s) during the pendency of this application

☐ Charge fee(s) indicated below, **except for the filing fee** to the above-identified deposit account.

FEE CALCULATION

1. BASIC FILING FEE

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description	Fee Paid
1001	750	2001	375	Utility filing fee	
1002	330	2002	165	Design filing fee	
1003	520	2003	260	Plant filing fee	
1004	750	2004	375	Reissue filing fee	
1005	160	2005	80	Provisional filing fee	

SUBTOTAL (1) ($)

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

	Extra Claims		Fee from below	Fee Paid
Total Claims	-20** =		X	=
Independent Claims	- 3** =		X	=
Multiple Dependent				=

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description
1202	18	2202	9	Claims in excess of 20
1201	84	2201	42	Independent claims in excess of 3
1203	280	2203	140	Multiple dependent claim, if not paid
1204	84	2204	42	** Reissue independent claims over original patent
1205	18	2205	9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) ($)

**or number previously paid, if greater; For Reissues, see above

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description	Fee Paid
1051	130	2051	65	Surcharge - late filing fee or oath	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet	
1053	130	1053	130	Non-English specification	
1812	2,520	1812	2,520	For filing a request for *ex parte* reexamination	
1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action	
1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action	
1251	110	2251	55	Extension for reply within first month	
1252	410	2252	205	Extension for reply within second month	
1253	930	2253	465	Extension for reply within third month	
1254	1,450	2254	725	Extension for reply within fourth month	
1255	1,970	2255	985	Extension for reply within fifth month	
1401	320	2401	160	Notice of Appeal	
1402	320	2402	160	Filing a brief in support of an appeal	320.00
1403	280	2403	140	Request for oral hearing	
1451	1,510	1451	1,510	Petition to institute a public use proceeding	
1452	110	2452	55	Petition to revive - unavoidable	
1453	1,300	2453	650	Petition to revive - unintentional	
1501	1,300	2501	650	Utility issue fee (or reissue)	
1502	470	2502	235	Design issue fee	
1503	630	2503	315	Plant issue fee	
1460	130	1460	130	Petitions to the Commissioner	
1807	50	1807	50	Processing fee under 37 CFR 1.17(q)	
1806	180	1806	180	Submission of Information Disclosure Stmt	
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	
1809	750	2809	375	Filing a submission after final rejection (37 CFR 1.129(a))	
1810	750	2810	375	For each additional invention to be examined (37 CFR 1.129(b))	
1801	750	2801	375	Request for Continued Examination (RCE)	
1802	900	1802	900	Request for expedited examination of a design application	

Other fee (specify) _____

*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) ($) 320.00

SUBMITTED BY				(Complete *(if applicable)*	
Name (Print/Type)	Steven L. Nichols	*Registration No. (Attorney/Agent)*	40,326	*Telephone*	801-572-8066
Signature				*Date*	March 17, 2003

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1783

GEN-040

09/353,583
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Group Art Unit: 2611

Samuel REICHGOTT et al. Conf. No.: 3801

Serial No.: 09/353,583 Examiner: TRAN, Hai V.

Filed: July 15, 1999

For: METHOD & APPARATUS FOR PREVENTING DISRUPTIONS IN SET-TOP TERMINAL FUNCTION DUE TO THE DOWNLOAD OF UPDATED PROGRAMMING OR DATA TO THE SET-TOP TERMINAL

APPEAL BRIEF

BOX AF
Commissioner for Patents
Washington, DC 20231

Sir:

This is an Appeal Brief under 37 C.F.R. § 1.192 appealing the final decision of the Primary Examiner dated October 23, 2002 (Paper No. 18). Each of the topics required by Rule 192 is presented herewith and is labeled appropriately.

I. Real Party in Interest

This application has been assigned to General Instrument Corp. of Horsham, Pennsylvania. The Assignment is recorded at Reel 010107, Frame 0420. General Instrument Corp. is a wholly owned subsidiary of Motorola, Inc. of Schaumburg, Illinois. Thus, the real parties in interest are General Instrument Corp and Motorola, Inc.

II. Related Appeals and Interferences

There are no appeals or interferences related to the present application of which the Appellant is aware.

III. Status of Claims

Claims 1-46 are currently pending in the application and all stand finally rejected. Appellant appeals from the final rejection of claims 1-46, which claims are presented in the Appendix.

IV. Status of Amendments

No amendments to the application were filed subsequent to the final Office Action of October 23, 2002 (Paper No. 18). A single after-final response was filed December 10, 2002 and made no amendments to the application.

V. Summary of the Invention

The present invention relates to the field of cable television in which a signal headend (201, Fig. 2) distributes a cable television signal over a cable network to a population of programmed set-top terminals (202, Fig. 2). Each subscriber will have a set-top terminal to enable reception and use of the cable television signal.

"Periodically, as the cable system evolves, new features may become available or signal distribution may be refined in such a manner that the programming in the set-top terminal (202) needs to be updated in order to allow the terminal (202) to continue to provide the services of the cable system to subscribers with peak efficiency." (Spec., p. 2, lines 15-21). "[N]ew programming for the set-top terminal (202) can be transmitted to the terminal (202) over the cable network (203) itself. In this way, upgraded programming and data can be distributed automatically from the headend (201) without requiring a visit to each set-top terminal (202) individually." (Spec, p. 2, lines 25-31).

However, the download of new programming over the cable network may interrupt the operation of the set-top terminal and the subscriber's use of the cable network. (Spec., p. 3). To avoid this, "the present invention involves preventing the computer processor (205) of the set-top terminal from accepting every download of data or programming offered by the headend over the cable network unless predetermined criteria are satisfied. Consequently, unnecessary interruptions of the

terminal functions or television signal usage are prevented." (Spec., p. 7, lines 13-19).

The "set-top terminal (202) [receives] a signal indicating that programming or data is available for download over the cable network (203). . . . The set-top terminal (202) may also be informed of the channel on which the download will be made available if that channel is an in-band channel (102). The set-top terminal (202) may also be informed of the channel on which the download will be made available if that channel is an in-band channel (102)." (Spec., p. 7, lines 22-28).

"After the set-top terminal (202) is signaled that a download is being offered and the channel over which the download will be made, the set-top terminal (202) will determine whether it has the criteria that must be met for accepting a new download (103)." (Spec., p. 7, line 33 to p. 8, line 4). "However, before the criteria for authorizing an interruption for accepting a download are checked, the set-top terminal (202) will verify that the data or programming being offered is a new version or does, in fact, represent an update from the data or programming the set-top terminal (202) already has (105)." (Spec., p. 8, lines 19-25).

"The criteria for authorizing a download may include one or more conditions that would indicate that interruption of service to accept a download is acceptable at that time. For example, if the set-top terminal (202) is turned off or is in the logical off state, the subscriber is clearly not using the terminal (202) and will not be annoyed at a service interruption to accept a download." (Spec., p. 9, lines 20-27). "Alternatively, if the set-top terminal (202) is in use when a download is offered, the set-top terminal (202) may query the subscriber whether he or she wishes to accept the download." (Spec. p. 9, lines 30-33).

"If the criteria for accepting a download are not met, the set-top terminal (202) will not accept the download. The set-top terminal (202) may be programmed to periodically or continuously reassess the criteria and accept the download when the criteria become satisfied." (Spec., p. 10, line 31 to p. 11, line 2).

"Additionally, the signal alerting the set-top terminal (202) that a download is available may include a deadline by which the terminal (202) must accept the download, if the terminal (202) determines that it needs or is intended to receive the

download . . . . If a deadline for accepting the download is set and the set-top terminal (202) has not been able to satisfy alternative criteria for accepting the download, the set top terminal (202) will, on that deadline, suspend service as necessary to accept the download (107)." (Spec., p. 11, lines 3-15).

Similarly, the set-top terminal, once it has acquired a download of new programming, may delay execution of the new programming until criteria are satisfied that indicate a minimum interference to the user by switching from older to newer programming. (Spec., p. 12, line 3 *et seq.*). These criteria may be similar to the criteria used for deciding whether to accept a download of new programming.

VI. Issues

In the final Office Action of October 23, 2002 (Paper No. 18), claims 1-4, 6-19, 21-22, 24-27, 29-37, and 39-44 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,440,632 to Bacon et al. ("Bacon").

Claims 5 and 28 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Bacon in view of U.S. Patent No. 5,373,557 to Diehl et. al. ("Diehl").

Claims 20 and 38 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Bacon in view of U.S. Patent No. 5,987,210 to Iggulden et al. ("Iggulden").

Claim 23 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Bacon in view of U.S. Patent No. 5,619,250 to McClellan et al. ("McClellan").

Claims 45 and 46 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Bacon in view of U.S. Patent No. 6,141,683 to Kraml et al. ("Kraml").

Accordingly, the issues presented on this appeal are

(1) whether claims 1-4, 6-19, 21-22, 24-27, 29-37, and 39-44 are anticipated under 35 U.S.C. § 102(b) by U.S. Patent No. 5,440,632 to Bacon et al. ("Bacon").

(2) whether claims 5 and 28 are unpatentable under 35 U.S.C. § 103(a) over Bacon in view of U.S. Patent No. 5,373,557 to Diehl et. al. ("Diehl").

(3) whether claims 20 and 38 are unpatentable under 35 U.S.C. § 103(a) over Bacon in view of U.S. Patent No. 5,987,210 to Iggulden et al. ("Iggulden").

(4) whether claim 23 are unpatentable under 35 U.S.C. § 103(a) over Bacon in view of U.S. Patent No. 5,619,250 to McClellan et al. ("McClellan").

(5) whether claims 45 and 46 are unpatentable under 35 U.S.C. § 103(a) over Bacon in view of U.S. Patent No. 6,141,683 to Kraml et al. ("Kraml").

VII. Grouping of Claims

Claims 1-4, 6, 9-17, 24-27, 29-37, and 39-42 stand or fall together. Claims 7, 8, 43 and 44 stand or fall together. Claims 18, 19, 21-23 and 36-40 stand or fall together. Claim 41 stands alone. Claims 5 and 28 stand or fall together. Claims 20 and 38 stand or fall together. Claims 45 and 46 stand or fall together. Arguments in support of the independent patentability of each of these claim groups will be provided below.

VIII. Arguments

In the final Office Action of October 23, 2002 (Paper No. 18), claims 1-4, 6-19, 21-22, 24-27, 29-37, and 39-44 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,440,632 to Bacon et al. ("Bacon").

Claim 1 recites:

> A set-top terminal for connecting a subscriber to a cable network, said terminal comprising:
> a processor; and
> a memory unit,
> wherein the processor monitors an out-of-band control channel of the cable network for information indicating that a download of data or programming is available and indicating a specified in-band channel for receiving the download of data or programming offered to said set-top terminal over said cable network, wherein said processor only accepts said download on said specified in-band channel and records said download in said memory unit when one or more predetermined criteria are satisfied, and wherein said criteria when satisfied indicates that acceptance of said download will cause a minimum of interference with said subscriber's use of said set-top terminal.

Claims 24 and 43 recite similar subject matter.

In contrast, Bacon fails to teach or suggest a set-top terminal with a processor that monitors an out-of-band control channel for information indicating that a download of data or programming is available on a specific in-band channel.

In this regard, the final Office Action refers to Bacon at Col. 8, lines 12-24. This passage of Bacon explains how the set-top descrambles a scrambled signal. The passage reads: "The descrambler control 110 of the MCC 104 utilizes recovered descrambling data to generate appropriate control signals, for example, inversion control and equalizing, sync restoration or regeneration for descrambling, or otherwise restoring the input baseband television signal. A secure microprocessor 136 determines whether the descrambler control 110 of MCC 104 carries out descrambling on a particular channel or what form of descrambling is required at a particular time by interpreting the authorization and control data downloaded from the system manager 12 (by any of the three data transmission schemes discussed herein, out-of-band, in-band audio or in-band video) into the internal NVM memory of the device."

This passage of Bacon teaches that authorization data used to descramble a scrambled channel signal can be downloaded to the set-top from the system manager "by any [one] of the three data transmission schemes discussed herein, out-of-band, in-band audio or in-band video." This passage does not teach or suggest the claimed monitoring of an out-of-band channel that broadcasts an alert that new programming is available on a separate, in-band channel.

The portion of Bacon that actually teaches downloading of new programming for the set-top begins at col. 9, line 25 and continues to col. 11, line 20. At no point in this discussion, or elsewhere, does Bacon teach or suggest the claimed out-of-band monitoring for information that points the set-top to a specific in-band channel for a download of new programming.

The claimed invention uses two different channels to download programming to the set-top: an out-of-band channel that is monitored for alerts that new programming is available, and an in-band channel referred to by the alert that actually carries the new programming. In contrast, Bacon never mentions using more than one channel in a process of downloading new programming to the set-top.

The Advisory Action of December 26, 2002 makes two points, neither of which is availing. First, the Advisory Action states that "the features upon which Applicant relies (i.e., monitored [sic] of an out-of-band [channel] that broadcast[s] an alert . . .) are not recited in the rejected claims(s)." This is demonstrably incorrect. Claim 1 expressly states "the processor monitors an out-of-band control channel of the cable network for information indicating that a download of data or programming is available and indicating a specified in-band channel for receiving the download of data or programming offered to said set-top terminal over said cable network." Thus, it is unclear how the Advisory Action could allege otherwise.

The Advisory Action also notes the existence of an out-of-band receiver (150) in Fig. 2A of Bacon. However, the mere fact that Bacon teaches an out-of-band receiver does not teach or suggest the claimed out-of-band monitoring for information that points the set-top to a specific in-band channel for a download of new programming. As explained above, the relevant portions of Bacon do not teach or suggest the claimed out-of-band channel monitoring and in-band downloading. Neither the final Office Action, nor the Advisory Action, explains how or where Bacon teaches the claimed out-of-band monitoring for information that points the set-top to a specific in-band channel for a download of new programming.

"A claim is anticipated [under 35 U.S.C. § 102] only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Verdegaal Bros. v. Union Oil Co. of California, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987) (emphasis added). See M.P.E.P. § 2131. Therefore, because Bacon fails to teach or suggest all the features of claims 1-17, 24-35 and 42-44, the rejection of claims 1-17, 24-35 and 42-44 should not be sustained.

Additionally, claim 7 recites that "said one or more criteria include a deadline by which acceptance of said download is required by an operator of said cable network, *said deadline being a specific point in time subsequent to an initial offering of said download of data or programming.*" (emphasis added). Claim 43 recites similar subject matter.

In this regard, the final Office Action indicates the teachings of Bacon at Col. 15, lines 57-63. At this point, Bacon teaches that the system operator may include a

flag with a download that forces immediate acceptance of the download by the set-top. The final Office Action appears to regard the "immediate flag" taught by Bacon as setting a deadline for accepting a download as claimed. This is clearly incorrect.

Claim 7 recites that a deadline is set which is "a specific point in time *subsequent* to an initial offering of said download." Bacon's immediate flag does not set a deadline that is "subsequent to an initial offering of said download." Rather, Bacon's immediate flag arrives with the initial offering of the download and forces "immediate" acceptance of the download. Thus, Bacon fails to teach or suggest the claimed deadline that is *subsequent* to an initial offering of a download.

The Advisory Action further notes that "if the conveneient [sic] flag is set, then in block A84 a message will be displayed to the subscriber indicating that 'New software is available' and requesting 'is it OK to update the software...'... The control processor 128 will then wait for the subscriber key input to block A86, or after a timeout period, will accept the lack of a key input as an affirmation response..." (Col. 16, lines 20-42) to support the claimed limitation 'said deadline being a specific point in time subsequent to an initial offering of the download of data or programming." (Advisory Action of December 26, 2002).

Again, this *not* a teaching of the claimed "deadline by which acceptance of said download is required." In the example given, if the user responds negatively to the convenience flag, the download is not accepted, indefinitely. (Col. 16, lines 30-36). Consequently, there is no "deadline" at which download is required as claimed.

"A claim is anticipated [under 35 U.S.C. § 102] only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Verdegaal Bros. v. Union Oil Co. of California, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987) (emphasis added). See M.P.E.P. § 2131. Bacon fails to teach or suggest the claimed "deadline by which acceptance of said download is required," the rejection of claims 7, 8, 43 and 44 should not be sustained.

Claim 18 recites:

> A set-top terminal for connecting a subscriber to a cable network, said terminal comprising:
> a processor; and
> a memory unit,

> wherein the processor monitors the cable network for information indicating that a download is available and indicating a specified channel for receiving the offered download, wherein said terminal occasionally receives said download over said cable network of new programming on said specified channel; and
>
> wherein following said download of programming, said processor will only execute said new programming from said download when one or more predetermined criteria are satisfied that indicate executing said new programming will not inconvenience said subscriber.

It is important to note that the subject matter of claim 18 does not deal with the timing of a download of new programming as do the claims discussed above. Rather, claim 18 deals with the timing at which newly-downloaded programming is executed by the receiving set-top terminal in favor of the programming that was previously running on that set-top terminal.

In contrast, Bacon fails to teach or suggest that, following a download of programming, execution of the new programming is delayed until certain criteria are satisfied indicating that executing the new programming will not inconvenience a subscriber. To the contrary, Bacon clearly teaches that a downloaded program is executed immediate after the download is complete. Specifically, Bacon teaches that "when the transaction count becomes zero [i.e., when the downloading process is complete], the program will jump back to its starting point in block A10, initialize the hardware, and start the control program at the designated start address of the new configuration and control program." (Col. 15, lines 21-26). Thus, Bacon clearly teaches that a downloaded program is executed immediate after the download is complete. There is no consideration of any criteria, as claimed, that would indicate whether execution of the new programming will inconvenience a subscriber.

The final Office Action alleges that the invention of claim 18 is taught by Bacon at col. 15, line 27 through col. 16, line 43. However, Bacon, at the portion cited, teaches using a convenience flag which requires the set-top to have the subscriber indicate approval before new programming is downloaded. (Col. 16, line 19 *et seq.*). This portion of Bacon only discusses delaying a programming download. It teaches *nothing* about delaying the execution of programming that has already been downloaded as is claimed.

Consequently, Bacon does not teach or suggest that execution of the new programming may be delayed until one or more criteria are satisfied that indicate executing the new programming will not inconvenience the subscriber. "A claim is anticipated [under 35 U.S.C. § 102] only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Verdegaal Bros. v. Union Oil Co. of California, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987) (emphasis added). See M.P.E.P. § 2131. For at least this reason, the rejection of claims 18-23 should not be sustained.

Similarly, claim 36 recites:

A method for implementing upgraded programming received in a set-top terminal for connecting a subscriber to a cable network, said method comprising the steps of:

receiving a signal from a headend identifying a specified in-band channel on which a download of upgraded programming is offered, wherein the received signal is obtained via an out-of-band control channel of the cable network; and

terminating execution of existing programming and commencing execution of said upgraded programming only when one or more predetermined criteria are satisfied.

As noted above, Bacon expressly teaches executing new programming immediately after downloading is complete (Col. 15, lines 21-26). Bacon does not teach or suggest "commencing execution of said upgraded programming only when one or more predetermined criteria are satisfied." Consequently, the rejection of claims 36-40 should also not be sustained.

Claim 41 recites:

A set-top terminal for connecting a subscriber to a cable network, said terminal comprising:

a processor unit comprising a first processor and a second processor; and

a memory unit;

wherein said first processor is dedicated to providing a user interface and said second processor is dedicated to monitoring an out-of-band channel for information indicating that a download of data or programming is available, indicating a specified in-band channel for receiving the download, and managing a download of data or programming offered to said set-top terminal over said cable network through the specified in-band channel such

> that said first processor can maintain said user interface including user services while said second processor manages the download.

(emphasis added).

Thus, claim 41 recites a first processor for providing a user interface and a second processor for managing the download of data or programming. The final Office Action alleges that the two processors recited by claim 41 are met by the control microprocessor (128) and the secure microprocessor (136) taught by Bacon. This is a clear misreading of the express teachings of Bacon.

According to Bacon, the control microprocessor (128) both provides a user interface and manages programming downloads. "The subscriber communicates to and controls the microprocessor 128 through an interactive user interface with an on screen display." (Col. 7, lines 53-56). "The control microprocessor 128 contains the boot program . . . . The boot program also provides a loading routine for the downloading of new control code" (Col. 13, lines 54-61).

In contrast, the secure microprocessor (136) is used only for descrambling scrambled signals. "A secure microprocessor 136 determines whether the descrambler control 110 . . . carries out descrambling on a particular channel or what form of descrambling is required at a particular time." (Col. 8, lines 17-22).

The Advisory Action of December 26, 2002 states that "it is safe to say tha [sic] microprocessor 136 manages/controls data downloaded on a particular channel." This is clearly incorrect. Applicant notes again that microprocessor 128, not microprocessor 136, manages programming downloads. "The control microprocessor 128 contains the boot program . . . . The boot program also provides a loading routine *for the downloading of new control code*" (Col. 13, lines 54-61) (emphasis added). Microprocessor 128 also manages the user interface as demonstrated above.

Consequently, Bacon fails to teach or suggest a set-top terminal with two processors where one processor manages programming downloads and the other manages a user interface. "A claim is anticipated [under 35 U.S.C. § 102] only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Verdegaal Bros. v. Union Oil Co. of California, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987) (emphasis added). See

M.P.E.P. § 2131. For at least this reason, the rejection of claim 41 should not be sustained.

Claims 5 and 28 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Bacon in view of U.S. Patent No. 5,373,557 to Diehl et. al. ("Diehl"). Claim 5 recites that "said one or more criteria [for accepting a download] include a time of day." Claim 28 recites similar subject matter.

As acknowledged by the final Office Action, Bacon fails to teach or suggest using "time of day" as a criteria for accepting a download of new data or programming. (Paper No. 18, p. 9). Adding Diehl to Bacon does not remedy this deficiency because Diehl only teaches a system that activates a decoder during a specified time of day (Col. 1, lines 55-60). Diehl does not teach or suggest accepting a data download based on time of day. Diehl does not teach or suggest monitoring an out-of-band channel for information indicating the availability of data or programming on a specified in-band channel and accepting new programming based, in part, on the time of day such programming is offered.

Consequently, the combined teachings of Bacon and Diehl fail to teach or suggest all the features of claims 5 and 28. "To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)." M.P.E.P. § 2143.03. Accord. M.P.E.P. § 706.02(j). Therefore, the rejection of 5 and 28 should not be sustained.

Claims 20 and 38 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Bacon in view of U.S. Patent No. 5,987,210 to Iggulden et al. ("Iggulden"). Claim 20 recites that "the one or more criteria [for accepting a download] include detection of a commercial break in television programming being received by said set-top terminal." Claim 38 recites similar subject matter.

As acknowledged by the final Office Action, Bacon fails to teach or suggest using detection of a commercial break as a criteria for accepting a download of new data or programming. (Paper No. 18, p. 10). Adding Iggulden to Bacon does not remedy this deficiency because Iggulden only teaches a video system that can detect

commercial messages and eliminated them from a video recording. Iggulden fails to teach or suggest monitoring an out-of-band channel for information indicating the availability of data or programming on a specified in-band channel and accepting new programming based, in part, on the detection of a commercial break.

Consequently, the combined teachings of Bacon and Iggulden fail to teach or suggest all the features of claims 20 and 38. "To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)." M.P.E.P. § 2143.03. Accord. M.P.E.P. § 706.02(j). Therefore, the rejection of 20 and 38 should not be sustained.

Claims 45 and 46 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Bacon in view of U.S. Patent No. 6,141,683 to Kraml et al. ("Kraml").

Claim 45 recites:

> A method of operating a set-top terminal for connecting a subscriber to a cable network, wherein said set-top terminal comprises a processor and a memory unit, said memory unit storing programming that is executed by said processor during operation of said set-top terminal, wherein said memory unit further comprises at least two versions of said programming, a newer version and an older version, said method comprising:
>
> executing said newer version of said programming upon start-up of said set-top terminal;
>
> receiving a command via said cable network to switch versions of said programming; and
>
> terminating execution of said newer version of said programming and beginning execution of said older version of said programming in response to receipt of said command.

As acknowledged by the final Office Action, Bacon fails to teach or suggest a method in which a system controller can send a command to terminate execution of one programming version and initiate execution of another version by a networked device. (Paper No. 18, p. 11). Adding the teachings of Kraml does not remedy this deficiency.

Kraml does not teach or suggest a method in which a system controller can send a command to terminate execution of one programming version and initiate

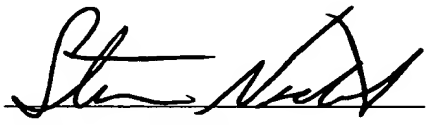
execution of another version by a networked device. Kraml only teaches switching programming versions when a previous version has failed an initial integrity check during boot or has "crashed." (Col. 6, line 47-col. 7, line 43).

Thus, the combination of Bacon and Kraml would fail to teach or suggest, "terminating execution of said newer version of said programming and beginning execution of said older verion" in response to "receiving a command . . . to switch versions of said programming." For at least this reason, the rejection of claims 45 and 46 should not be sustained.

X. Conclusion

In view of the foregoing, it is submitted that the final rejection of claims 1-46 is improper and should not be sustained. Therefore, a reversal of the Final Rejection is respectfully requested.

Respectfully submitted,



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APPENDIX

Claims on Appeal

1. A set-top terminal for connecting a subscriber to a cable network, said terminal comprising:

a processor; and

a memory unit,

wherein the processor monitors an out-of-band control channel of the cable network for information indicating that a download of data or programming is available and indicating a specified in-band channel for receiving the download of data or programming offered to said set-top terminal over said cable network, wherein said processor only accepts said download on said specified in-band channel and records said download in said memory unit when one or more predetermined criteria are satisfied, and wherein said criteria when satisfied indicates that acceptance of said download will cause a minimum of interference with said subscriber's use of said set-top terminal.

2. The terminal of claim 1, wherein said one or more criteria are downloaded to said set-top terminal over said cable network.

3. The terminal of claim 1, wherein said set-top terminal verifies that said data or programming offered as said download is not already resident in said memory.

4. The terminal of claim 1, wherein said set-top terminal verifies that said data or programming offered as said download is specified as being intended for a class of terminals to which said set-top terminal belongs.

5. The terminal of claim 1, wherein said one or more criteria include a time of day.

6. The terminal of claim 1, wherein said one or more criteria include whether said set-top terminal is turned off.

7. The terminal of claim 1, wherein said one or more criteria include a deadline by which acceptance of said download is required by an operator of said cable network, said deadline being a specific point in time subsequent to an initial offering of said download of data or programming.

8. The terminal of claim 7, wherein said set-top terminal defers said deadline if said set-top terminal is being used to provide a dedicated service including recording programming in conjunction with a VCR or providing pay-per-view programming.

9. The terminal of claim 1, wherein said set-top terminal signals said subscriber that said download is available and requests permission to accept said download, said one or more criteria including a positive response by said subscriber to said request for permission to accept said download.

10. The terminal of claim 1, wherein said set-top terminal tunes to said specified in-band channel to receive said download if said one or more criteria are satisfied.

11. The terminal of claim 1, wherein if said one or more criteria are satisfied, said processor erases information in said memory unit and replaces said erased information with data or programming from said download.

12. The terminal of claim 1, wherein following said download of programming, said processor will only execute newly-received programming from said download when one or more predetermined criteria are satisfied.

13. The terminal of claim 1, wherein, prior to accepting said download, said processor determines whether any programming is stored in said memory which

is not being executed, but which is identified as being a later version than programming being executed by said processor at that time; if said processor locates any such later version of programming in memory, said processor will terminate execution of the programming being executed, erase said terminated programming from memory and reset so as to execute said later version of said programming.

14. The terminal of claim 1, wherein, when said one or more criteria for accepting said download have been satisfied, said processor will erase from said memory any older, non-executing version of said programming already resident in memory and replace said erased programming with new programming from said download.

15. The terminal of claim 1, wherein said memory unit is logically partitioned into two sections, a first section for containing programming being executed by said processor and a second section for receiving and storing programming from said download.

16. The terminal of claim 1, wherein each download of programming contains two versions of a programming object, a first programming object for storage in and execution from a first memory section of said memory unit and a second programming object for storage in and execution from a second memory section, of said memory unit wherein said processor downloads one of said two versions of programming in accordance with whether said first or second memory sections is vacant.

17. The terminal of claim 1, wherein said memory unit comprises two separate memory devices, a first memory device for containing programming being executed by said processor and a second memory device for receiving and storing programming from said download.

18. A set-top terminal for connecting a subscriber to a cable network, said terminal comprising:

a processor; and

a memory unit,

wherein the processor monitors the cable network for information indicating that a download is available and indicating a specified channel for receiving the offered download, wherein said terminal occasionally receives said download over said cable network of new programming on said specified channel; and

wherein following said download of programming, said processor will only execute said new programming from said download when one or more predetermined criteria are satisfied that indicate executing said new programming will not inconvenience said subscriber.

19. The terminal of claim 18, wherein said one or more criteria include whether said set-top terminal is turned off.

20. The terminal of claim 18, wherein said one or more criteria include detection of a commercial break in television programming being received by said set-top terminal.

21. The terminal of claim 18, wherein said one or more criteria include a deadline by which implementation of said new programming is required by an operator of said cable network.

22. The terminal of claim 21, wherein said set-top terminal defers said deadline if said set-top terminal is being used to provide a dedicated service including recording programming in conjunction with a VCR or providing pay-per-view programming.

23. The terminal of claim 18, wherein said set-top terminal signals said subscriber that new programming has been received and is ready for execution and requests permission to execute said new programming, said one or more criteria including a positive response by said subscriber to said request for permission to execute said new programming.

24. A method for minimizing interruptions to use of a set-top terminal that connects a subscriber to a cable network where said interruptions result from downloading data or programming to said set-top terminal over said cable network, the method comprising the steps of:

receiving a signal from a headend identifying a specified in-band channel on which said download is available, wherein the received signal is obtained via an out-of-band control channel of the cable network; and

accepting said download on said specified in-band channel only when one or more predetermined criteria are satisfied, said criteria when satisfied indicating that acceptance of said download will not interfere with said subscriber's use of said set-top terminal.

25. The method of claim 24, further comprising downloading said one or more criteria to said set-top terminal over said cable network.

26. The method of claim 24, further comprising verifying that said data or programming offered as said download is not already resident in said set-top terminal.

27. The method of claim 24, wherein said method further comprising verifying whether said one or more predetermined criteria are satisfied.

28. The method of claim 27, wherein said verifying comprises comparing a time of day against a predetermined acceptable time of day for accepting a download.

29. The method of claim 27, wherein said verifying comprises determining whether said set-top terminal is turned off.

30. The method of claim 24, further comprising signaling said subscriber that said download is available and requesting permission to accept said download,

wherein said one or more criteria include receiving a positive response by said subscriber to said request for permission to accept said download.

31. The method of claim 24, further comprising, subsequent to said download of programming, executing newly-received programming from said download only when one or more predetermined criteria are satisfied.

32. The method of claim 24, wherein, prior to accepting said download, said method comprises:

determining whether any programming is stored in said memory which is not being executed, but which is identified as being a later version than programming running on said set-top terminal at that time; and,

if any such later version of programming is located in memory, terminating execution of the programming being executed, erasing said terminated programming from memory and resetting said set-top terminal so as to execute said later version of said programming.

33. The method of claim 24, wherein, when said one or more criteria for accepting said download have been satisfied, said method further comprises erasing from said memory any older, non-executing version of said programming already resident in memory and replace said erased programming with new programming from said download.

34. The method of claim 24, further comprising partitioning said memory unit into two memory sections, a first memory section for containing programming being executed by said processor and a second memory section for receiving and storing programming from said download.

35. The method of claim 34, wherein each download of programming contains two versions of a programming object, a first programming object for storage in and execution from said first memory section and a second programming object for storage in and execution from said second memory section, wherein said method

further comprises selectively downloading one of said two versions of programming in accordance with whether said first or second memory section is vacant.

36. A method for implementing upgraded programming received in a set-top terminal for connecting a subscriber to a cable network, said method comprising the steps of:

receiving a signal from a headend identifying a specified in-band channel on which a download of upgraded programming is offered, wherein the received signal is obtained via an out-of-band control channel of the cable network; and

terminating execution of existing programming and commencing execution of said upgraded programming only when one or more predetermined criteria are satisfied.

37. The method of claim 36, wherein said one or more criteria include whether said set-top terminal is turned off.

38. The method of claim 36, wherein said one or more criteria include detection of a commercial break in television programming being received by said set-top terminal.

39. The method of claim 36, wherein said one or more criteria include a deadline by which implementation of said new programming is required by an operator of said cable network.

40. The method of claim 39, further comprising deferring said deadline if said set-top terminal is being used to provide a dedicated service including recording programming in conjunction with a VCR or providing pay-per-view programming.

41. A set-top terminal for connecting a subscriber to a cable network, said terminal comprising:

a processor unit comprising a first processor and a second processor; and

a memory unit;

wherein said first processor is dedicated to providing a user interface and said second processor is dedicated to monitoring an out-of-band channel for information indicating that a download of data or programming is available, indicating a specified in-band channel for receiving the download, and managing a download of data or programming offered to said set-top terminal over said cable network through the specified in-band channel such that said first processor can maintain said user interface including user services while said second processor manages the download.

42. The terminal of claim 1, wherein said programming is received in packets, said terminal being configured to reassemble said packets into an executable object and stored into non-volatile memory.

43. A set-top terminal for connecting a subscriber to a cable network, said terminal comprising:

a processor; and

a memory unit,

wherein the processor monitors transmissions over said cable network for information indicating that a download of data or programming is available and indicating a specified channel for receiving the download of data or programming offered to said set-top terminal over said cable network, wherein said processor only accepts a download and records said download in said memory unit when one or more predetermined criteria are satisfied that indicate that acceptance of said download will cause a minimum of interference with said subscriber's use of said set-top terminal; and

wherein said one or more criteria include a deadline by which acceptance of said download is required by an operator of said cable network, said deadline being a specific point in time subsequent to an initial offering of said download of data or programming.

44. The terminal of claim 43, wherein said set-top terminal defers said deadline if said set-top terminal is being used to provide a dedicated service including

recording programming in conjunction with a video cassette recorder or providing pay-per-view programming.

45. A method of operating a set-top terminal for connecting a subscriber to a cable network, wherein said set-top terminal comprises a processor and a memory unit, said memory unit storing programming that is executed by said processor during operation of said set-top terminal, wherein said memory unit further comprises at least two versions of said programming, a newer version and an older version, said method comprising:

executing said newer version of said programming upon start-up of said set-top terminal;

receiving a command via said cable network to switch versions of said programming; and

terminating execution of said newer version of said programming and beginning execution of said older version of said programming in response to receipt of said command.

46. The method of claim 45, further comprising erasing said newer version of programming from said memory and restarting said set-top terminal to begin execution of said older version of programming.